Chemical Engineering Plant Economics MCQ Question Answer

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Question: 1. For a typical project, the cumulative cash flow is zero at the

Option A. End of the project life
Option B. Breakeven point
Option C. Start up
Option D. End of the design stage

Question: 2. A present sum of Rs. 100 at the end of one year, with half yearly rate of interest at 10%, will be Rs.

Option A. 121
Option B. 110
Option C. 97
Option D. 91

Question: 3. The inventory of raw materials included in the working capital is usually about _____ months supply of raw materials valued at delivery prices.

Option A. One
Option B. Three
Option C. Six
Option D. Twelve

Question: 4. Pick out the wrong statement.

Option A. Longer tubes are less expensive per unit heat transfer area as compared to shorter tubes
Option B. A cost index is merely a number for a given year showing the cost at that time relative to a certain base year
Option C. Turnover ratio of a chemical plant is the ratio of gross annual sales to the fixed capital investment
Option D. Plates with butt welded joints are less expensive compared to lap welded joints, because squaring of plates is not necessary

Question: 5. The amount of simple interest during 'n' interest period is (where, i = interest rate based on the length of one interest period, p = principal)

Option A. p.i.n.
Option B. p(1 + i.n)
Option C. p(1 + i)n
Option D. p(1 - i.n)

Question: 6. Depreciation

Option A. Costs (on annual basis) are constant when the straight line method is used for its

determination

Option B. Is the unavoidable loss in the value of the plant, equipment and materials with lapse in time

Option C. Does figure in the calculation of income tax liability on cash flows from an investment

Option D. All (A), (B) and (C)

Question: 7. Payback period

Option A. And economic life of a project are the same

Option B. Is the length of time over which the earnings on a project equals the investment

Option C. Is affected by the variation in earnings after the recovery of the investment

Option D. All (A), (B) and (C)

Question: 8. Utilities cost in the operation of chemical process plant comes under the

Option A. Plant overhead cost

Option B. Fixed charges

Option C. Direct production cost

Option D. General expenses

Question: 9. Total product cost of a chemical plant does not include the _____ cost.

Option A. Market survey

Option B. Operating labour, supervision and supplies

Option C. Overhead and utilities

Option D. Depreciation, property tax and insurance

Question: 10. Out of the following, the depreciation calculated by the _____ method is the maximum.

Option A. Diminishing balance

Option B. Straight line

Option C. Sum of the years digit

Option D. Sinking fund

Question: 11. Which of the following is not a component of working capital?

Option A. Raw materials is stock

Option B. Finished products in stock

Option C. Transportation facilities

Option D. Semi-finished products in the process

Question: 12. In which of the electric power generation system, the operating cost is minimum?

Option A. Thermal

Option B. Nuclear

Option C. Hydroelectric

Option D. Fast breeder reactor

Question: 13. Which of the following is not a component of the working capital for a chemical process plant?

Option A. Product inventory
Option B. In-process inventory
Option C. Minimum cash reserve
Option D. Storage facilities

Question: 14. With increase in the discounted cash flow rate of return, the ratio of the total present value to the initial investment of a given project

Option A. Decreases
Option B. Increases
Option C. Increases linearly
Option D. Remain constant

Question: 15. _____ of depreciation calculation accounts for the interest on investment.

Option A. Straight line method
Option B. Declining balance
Option C. Both (A) and (B)
Option D. Neither (A) nor (B)

Question: 16. Purchased cost of equipments for a chemical process plant ranges from _____ percent of the fixed capital investment.

Option A. 10 to 20
Option B. 20 to 40
Option C. 45 to 60
Option D. 65 to 75

Question: 17. A reactor having a salvage value of Rs. 10000 is estimated to have a service life of 10 years. The annual interest rate is 10%. The original cost of the reactor was Rs. 80000. The book value of the reactor after 5 years using sinking fund depreciation method will be Rs.

Option A. 40,096
Option B. 43,196
Option C. 53,196
Option D. 60,196

Question: 18. The _____ of a chemical company can be obtained directly from the balance sheet as the difference between current assets and current liabilities.

Option A. Cash ratio
Option B. Net working capital
Option C. Current ratio
Option D. Liquids assets

Question: 19. According to six-tenths-factor rule, if the cost of a given unit at one capacity is

known, then the cost of similar unit with '' times the capacity of the first unit is approximately equal to _____ times the cost of the initial unit.

Option A. n
Option B. n0.6
Option C. n0.4
Option D. √n

Question: 20. Accumulated sum at the end of 5 years, if Rs. 10000 is invested now at 10% interest per annum on a compound basis is Rs.

Option A. 15000
Option B. 16105
Option C. 18105
Option D. 12500

Question: 21. Which of the following is the costliest material of construction used in pressure vessel construction?

Option A. Low alloy steel
Option B. Lead
Option C. Titanium
Option D. High alloy steel

Question: 22. Generally, income taxes are based on the

Option A. Total income
Option B. Gross earning
Option C. Total product cost
Option D. Fixed cost

Question: 23. Following the six-tenth factor rule, if a loglog plot of capacity of the equipment vs. cost of the equipment is made, then a straight line is obtained, whose slope is equal to

Option A. 0.1
Option B. 0.6
Option C. 0.2
Option D. 0.8

Question: 24. Which of the following is the costliest source of getting hydrogen on commercial scale for the manufacture of nitrogenous fertiliser?

Option A. Coal gasification
Option B. Steam reforming of naphtha
Option C. Electrolysis of water
Option D. Coke oven gas

Question: 25. Which of the following is a component of working capital investment?

Option A. Utilities plants

Option B. Maintenance and repair inventory

Option C. Process equipments

Option D. Depreciation

Question: 26. An investment of Rs. 100 lakhs is to be made for construction of a plant, which will take two years to start production. The annual profit from the operation of the plant is Rs. 20 lakhs. What will be the payback time?

Option A. 5 years

Option B. 7 years

Option C. 12 years

Option D. 10 years

Question: 27. _____ taxes are based on gross earnings.

Option A. Property

Option B. Excise

Option C. Income

Option D. Capital gain

Question: 28. Break-even point is the point of intersection of

Option A. Fixed cost and total cost

Option B. Total cost and sales revenue

Option C. Fixed cost and sales revenue

Option D. None of these

Question: 29. 'Lang factor' is defined as the ratio of the capital investment to the delivered cost of major equipments. The value of 'Lang factor' for fixed capital investment, for a solid-fluid processing chemical plant ranges from

Option A. 1.2 to 1.4

Option B. 2.5 to 2.7

Option C. 4.2 to 4.4

Option D. 6.2 to 6.4

Question: 30. The depreciation during the year 'n', in diminishing balance method of depreciation calculation, is calculated by multiplying a fixed percentage 'N' to the

Option A. Initial cost

Option B. Book value at the end of (n - 1)th year

Option C. Depreciation during the (n - 1)th year

Option D. Difference between initial cost and salvage value

Answer Sheet

1	B	
2	A	
3	A	
4	D	
5	A	
6	D	
7	B	
8	C	
9	A	
10	A	
11	C	
12	C	
13	D	
14	A	
15	D	
16	B	
17	D	
18	B	
19	B	
20	B	
21	C	
22	B	
23	B	
24	C	
25	B	
26	B	
27	C	
28	B	
29	C	
30	B	